Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band	)	IB Docket No. 96-132

To: The Commission

REPLY OF COMSAT CORPORATION

COMSAT Corporation ("COMSAT"), hereby submits this Reply to the comments filed in the above-captioned proceeding. COMSAT supports the Commission's proposals in the Notice of Proposed Rulemaking ("NPRM"),[1] which recognize that the amount of L-band spectrum ultimately allocated to U.S.-licensed systems for provision of mobile satellite services ("MSS") will depend on the outcome of the existing intersystem coordination process. COMSAT is concerned, however, that some of the Commentors do not appear to understand the significance of the L-band coordination agreement recently concluded in Mexico City. Several of the comments also reflect a basic misunderstanding regarding Inmarsat's and COMSAT's use of L-band MSS spectrum. COMSAT believes it is important to clarify these points, and to address concerns for the integrity of safety and distress maritime communications in the lower L-band, in order to provide the Commission with a full and accurate record from which to devise policies that promote the competitive provision of MSS, both domestically and internationally.

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[1] *Notice of Proposed Rulemaking,* IB Docket No. 96-132, released June 18, 1996 (*NPRM*).

ARGUMENT

The Commission's proposals in the NPRM properly reflect the importance of the ongoing technical coordination of L-band spectrum between the United States (representing the interests of AMSC), Canada, Mexico, the Russian Federation, and Inmarsat as a fundamental prerequisite in determining the amount of L-band spectrum that will ultimately be allocated for use by U.S.-licensed MSS systems.[2] As COMSAT and many of the other Commentors noted, immediately following the release of the NPRM, the Commission announced that it had entered into a historic coordination agreement in Mexico City. COMSAT disagrees with those Commentors who suggest that the U.S. has given up its negotiating authority over the lower L-band in executing the Mexico City accord.[3] The agreement provides for a dynamic, annual allocation of L-band spectrum between the five MSS systems on the basis of actual usage and short term projections of future traffic.[4] The concept of consecutive, short-term operator-to-operator spectrum sharing agreements should provide a strong incentive for AMSC, as the U.S. system operator, to expand its customer base and, thereby, demonstrate an actual need for additional L-band spectrum.[5] COMSAT fully supports this coordination approach, which allows the end users of MSS services to determine which services best meet their needs.

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[2] *See NPRM* at para. 1,7.

[3] *See* Comments of L/Q Licensee, Inc., IB Docket No. 96-132, filed Sept. 3, 1996 at 11; Comments of Celsat America, Inc., IB Docket No. -132, filed Sept. 3, 1996, at 4-5.

[4] *See* "FCC Hails Historic Agreement on International Satellite Coordination," Report No. IN 96-16, released June 25, 1996.

[5] AMSC also will face significant competition in the near term from the Big LEO MSS systems, certain Little LEO systems, mobile systems at Ku band and 2 GHz MSS.

The Mexico City accord also represents a significant improvement over previous, drawn out coordination efforts. As the NPRM indicates, L-band coordination historically has been extremely difficult due to the lack of spectrum at L-band to accommodate the projected end of life spectrum requirements of each MSS system. Based on present and future consumer demand for mobile satellite services, the Commission and the last three World Radiocommunications Conferences have concluded that MSS systems worldwide are facing a severe spectrum shortage at L-band. To relieve that congestion, the world has allocated additional spectrum to MSS in the so called "Big LEO" bands (i.e. at 1.6/2.4 GHz) and at 2 GHz. Even with these additional allocations for prospective MSS systems, the geostationary MSS systems currently operating in the L-band have very little spectrum to grow traffic and could run out of spectrum by end of 1997 if each system operator realizes its forecasted traffic demand. For that reason, it is a major accomplishment for the United States to have concluded an interim agreement that will enable AMSC and the other MSS system operators at L-band to review their spectrum requirements annually and adjust their allocations to reflect actual system needs.[6]

In the context of the international coordination process, COMSAT wishes to correct several misconceptions that have been introduced into the record concerning the usage of L-band spectrum by Inmarsat and COMSAT. First, it is no longer true, as AMSC's Comments (at page 5) would suggest, that the Inmarsat-A service requires 50 KHz channels. The Inmarsat-A service

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[6] The suggestion that other U.S. domestic proponents of MSS should be brought into the international coordination process (without having identified systems through the ITU advance publication information process), would appear contrary to the current U.S. position regarding coordination processes and to the "operator-to-operator" approach proposed by the FCC in Mexico City. *See* Comments of Lockheed Martin Corp, IB Docket No.96-132, filed Sept. 17, 1996, at 15.

essentially has been operating on a 25 KHz channel spacing plan since the end of August 1996. In addition, because the Inmarsat-A antennas are highly directional, and are able to discriminate between the three Inmarsat satellites visible to the U.S., the Inmarsat-A system achieves a threefold frequency reuse of the lower L-band even with the use of global beams.[7]

Moreover, now that the third-generation Inmarsat satellites are being launched, COMSAT will soon be able to offer its state-of-the-art PLANET 1SM service, which is more spectrum efficient than AMSC's voice and data services.[8] PLANET 1™ utilizes spot beam technology on the Inmarsat-3 satellites and requires only 5 KHz channels, in contrast to the 6 KHz voice channels for AMSC's Skycell service. COMSAT believes that the low-cost, highly portable PLANET 1™ technology will best suit the needs of many domestic users. As we have shown in our Comments, it would be contrary to the spirit of Mexico City accord for the Commission to seek artificially to increase the amount of L-band spectrum available for AMSC by barring U.S. consumers from accessing competitive land-based digital services such as PLANET 1SM.[9]

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[7] As COMSAT has stated before in numerous proceedings, we are continuing to work with both Inmarsat and the Commission staff to identify ways to further improve the efficiency of the Inmarsat-A service, as well as to provide incentives to users to transition to Inmarsat's newer, more spectrum efficient digital services. *See, e.g.*, Opposition of COMSAT Corporation to Applications fro Review, File No. ITC-95-422, filed Aug. 26, 1996, at 18-19; Opposition of COMSAT Corporation to Petitions to Deny, File No. 1281-DSE-P/L-96, E960327, filed Aug. 8, 1996, at 18-19.

[8] In comparing the two systems, AMSC gives the impression that it offers services equivalent to Inmarsat's in all respects. This is not the case. AMSC does not provide the full complement of Inmarsat-A, -B, or -M voice and data services, such as high speed data services required by broadcasters operating from remote locations.

[9] Comments of COMSAT Corporation, IB Docket No. 96-132, filed Sept. 17, 1996, at 3-5.

COMSAT also believes that it is important to clarify Motorola's misstatements regarding Inmarsat's alleged use of "86 MHz" of L-band spectrum and the actual number of Inmarsat users.[10] Currently, in the entire L-band a total of 68 MHz is available to Inmarsat and all other MSS providers worldwide for Earth-to-space and Space-to-earth MSS transmissions (e.g. 34 MHz in each direction at 1626.5-1660.5 MHz and 1525-1559 MHz, respectively). However, the second generation of Inmarsat satellites were designed to operate over only 18 MHz of L-band spectrum in each direction. Although the Inmarsat-3 satellites are technically capable of operating over the entire L-band, in actuality an even smaller amount of bandwidth will be available to the Inmarsat-3 satellites visible from North America than was available to the Inmarsat-2 satellites, due to the limitations imposed by the international coordination process.

Within the Inmarsat system today, there are over 60,000 terminals in use worldwide. These terminals provide vital maritime, land mobile and aeronautical services to commercial and governmental customers. Because roughly half of the 60,000 Inmarsat terminals in use today were designed for large ocean-going ships with hundreds or thousands of personnel and passengers, the actual number of Inmarsat users is significantly higher than the number of deployed terminals.

Finally, COMSAT wishes to express its support for the NPRM's recognition of the need to protect the integrity of Global Maritime Distress and Safety System ("GMDSS")

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[10] Comments and Opposition of Motorola and Iridium, IB Docket No. 96-132, filed Sept. 3, 1996, at 11-12 (referencing pleadings filed in 1993 to support the proposition that Inmarsat has access to "86 MHz of spectrum" to provide service to some 30,000 mobile terminals). *But see* Testimony of Robert Kinzie, Iridium, Before the Subcommittee on Telecommunications and Finance, Commerce Committee, U.S. House of Representatives, Sept. 25, 1996 (stating that today Inmarsat serves 60,000 users within the 68 MHz at L-band).

communications. From the record thus far, it does not appear that there is a consensus between the FCC, AMSC and the Coast Guard as to how best to accomplish this objective. Given that AMSC is authorized to provide international maritime communications within the full limits of its satellite coverage area,[11] COMSAT believes that any decision by the FCC to enable AMSC to operate in the lower L-band must be consistent with the standards for international service in that band.[12] Moreover, in that regard it becomes extremely critical that the FCC not consider any alternative approach proposed by AMSC for handling distress messages until AMSC has demonstrated that its proposal is operationally and economically feasible.

COMSAT notes that significant demands are being placed on the lower L-band for GMDSS, and that these demands will likely only become greater in the months ahead. Two trends may have a particular impact on the use of the lower L-band. First, while ship fittings to comply with mandatory GMDSS carriage requirements have been lagging worldwide, a surge of fittings -- and an accompanying surge in traffic -- is expected before the February 1, 1999 deadline when the GMDSS amendments to the 1974 International Convention for the Safety of Life at Sea enter into force. Second, with budget constraints affecting maritime administrations worldwide, many are considering cost-cutting measures such as reducing their operation of shorter-range terrestrial systems, thus increasing ships' reliance on Inmarsat.[13] These and other developments are likely to have implications for the GMDSS-related discussions in the intersystem coordination

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[11] *In re Application of AMSC to Provide Incidental Transborder and International Maritime Communications, Authorization and Certificate*, 11 FCC Rcd 6830 (1996).

[12] *See* ITU Radio Regulation No. 726C.

[13] The governments of Australia and South Africa have already taken such actions. *See* "GMDSS-Too Late to Act," *Ocean Voice*, July 1996 at 24.

process, and thereby impact the amount of lower L-band spectrum available for non-GMDSS-compliant services.

CONCLUSION

For the reasons stated above, and in COMSAT's Comments, COMSAT supports the NPRM's proposals which recognize that any further assignment of spectrum to AMSC -- in any part of the L-band -- must first be agreed to within the existing intersystem L-band coordination process. Consistent with the thrust of the Mexico City accord, and to promote U.S. consumer choices, COMSAT also urges the Commission to act promptly to grant COMSAT's pending domestic service applications.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Nancy J. Thompson, hereby certify that on this 7th day of October, 1996, a copy of the foregoing Reply of COMSAT Corporation, was mailed via first-class mail to the below-listed persons.

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